II. Claim Amendments

1. (Currently Amended) A genetically engineered construct comprising a gene-mutated EIAV genome comprising two (2) redundant stop codons in the S2 open reading frame and a deletion wherein said virus lacks the ability to express the mutated gene protein *in vivo* and wherein said lack of expression can be used to differentiate vaccinated from non-vaccinated or infected mammals.

2. (Cancelled, without prejudice or disclaimer)

3. (Original) The construct of Claim 1 wherein the two stop codons are engineered into the proviral DNA of $EIAV_{UK}$ at S2 amino acids G^5 and G^{18}.

4. (Original) The construct of Claim 1 wherein said stop codon does not affect normal expression of the envelope protein.

5. (Original) The construct of Claim 1 wherein the deletion is a deletion of between 6 and 25 base pairs.

6. (Original) The construct of Claim 5 wherein the said deletion is located at least 7 base pairs downstream of the stop codon of the second coding region of TAT.

7. (Original) The construct according to Claim 5 wherein said deletion does not interrupt the splice donor 2 site downstream of the stop codon of the second coding region of TAT and upstream of the initiation codon of the S2 open reading frame.

8. (Original) The construct according to Claim 5 wherein said deletion is upstream of the envelope coding region.

9. (Original) The construct of Claim 5 wherein the deletion is 9 base pairs.

10. (Original) The construct of Claim 3 wherein generation of the stop codon at G^5 further comprises the insertion of a restriction endonuclease site whereby the restriction endonuclease is a molecular marker for differentiating between wildtype EIAV and the gene-mutated EIAV.

11. (Original) A diagnostic test for differentiating mammals vaccinated with the construct of Claim 1 from non-vaccinated mammals or from infected mammals comprising one or more reagents for demonstrating the absence of a normal EIAV gene expression product in mammals vaccinated with the gene-mutated construct of Claim 1 and a measurable level of said expression product in infected mammals.

12. (Original) A diagnostic test for differentiating mammals vaccinated with the construct of Claim 1 from non-vaccinated mammals or from infected mammals comprising one or more reagents for demonstrating the absence of a normal gene sequence in mammals vaccinated with the gene-mutated construct of Claim 1 and a measurable amount of the normal gene sequence in infected mammals.

13. (Original) A method of differentiating a vaccinated mammal from a non-vaccinated mammal, said method comprising;

a. obtaining a sample from a test mammal; and

b. analyzing said sample for the presence of a gene expression product normally produced by wild-type EIAV but not produced by the EIAV construct of Claim 1.

14.(Currently Amended) A genetically engineered construct comprising a gene-mutated EIAV genome comprising two (2) redundant stop codons wherein the two

redundant stop codons are inserted into the S2 open reading frame and engineered into the proviral DNA of $EIAV_{UK}$ at S2 amino acids G^5 and G^{18} and a deletion comprising 9 base pairs outside the envelope open reading frame ~~wherein said virus lacks the ability to express the mutated gene protein *in vivo* and wherein said lack of expression can be used to differentiate vaccinated from non-vaccinated or infected mammals~~.

15. (Currently Amended) A genetically engineered construct comprising a gene-mutated EIAV genome comprising two (2) redundant stop codons wherein the two redundant stop codons are inserted into the S2 open reading frame and engineered into the proviral DNA of $EIAV_{UK}$ at S2 amino acids G^5 and G^{18} and a deletion comprising between 6 and 25 base pairs outside the envelope open reading frame ~~wherein said virus lacks the ability to express the mutated gene protein *in vivo* and wherein said lack of expression can be used to differentiate vaccinated from non-vaccinated or infected mammals~~.

16. (New) The construct of Claim 15 wherein said virus lacks the ability to express the mutated gene protein *in vivo* and wherein said lack of expression can be used to differentiate vaccinated from non-vaccinated or infected mammals.